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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,949	01/23/2004	Andrei Darievich Mirzabekov	U 014998-5	5066
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LADAS & PARRY 26 WEST 61ST STREET NEW YORK, NY 10023			EXAMINER STEELE, AMBER D	
			ART UNIT 1639	PAPER NUMBER
			MAIL DATE 12/03/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/763,949

Applicant(s)

MIRZABEKOV ET AL.

Examiner

Amber D. Steele

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 52-77 is/are pending in the application.
- 4a) Of the above claim(s) 76 and 77 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 52-75 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Status of the Claims and History of Office Correspondence***

1. Claims 1-34 were originally filed on January 23, 2004.

A restriction requirement was mailed on June 30, 2006 (Groups I-XXI).

The amendment to the claims received on October 3, 2006 canceled claims 1-17 and added new claims 35-51.

A Notice of Non-Responsive Amendment (i.e. failed to elect a single invention and species) was mailed on December 19, 2006.

The amendment to the claims received on May 23, 2007 canceled claims 1-51 and added new claims 52-77.

A Notice of Non-Responsive Amendment (i.e. failed to elect a single invention and species) was mailed on July 31, 2007. In addition, the newly added claims corresponded to Groups XIX-XXI (i.e. new claims 52-75 = Group XIX, new claim 76 = Group XX, and new claim 77 = Group XXI) of the restriction requirement mailed on June 30, 2006. Moreover, it was stated that the election of Group XIX (i.e. new claims 52-75) may necessitate a supplemental (i.e. secondary) restriction.

The amendment to the claims received on October 1, 2007 changed the status identifiers only.

### ***Election/Restrictions***

2. Applicant's election of Group XIX (claims 52-75) in the reply filed on October 1, 2007 is acknowledged. Because applicant did not distinctly and specifically point out the supposed

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errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

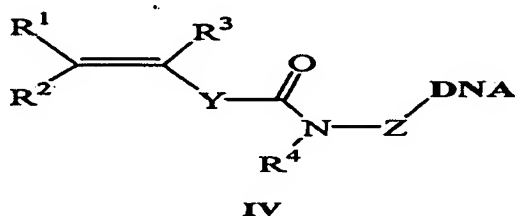
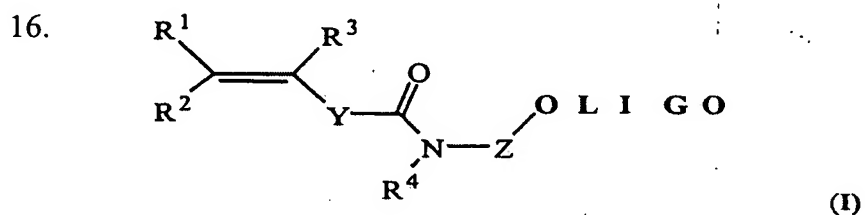
3. Claims 76-77 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions. Election was made **without** traverse in the reply filed on October 1, 2007.

***Secondary Restriction***

4. Due to the claim amendments received on May 23, 2007 and October 1, 2007, a secondary restriction for previous Group XIX (new claims 52-75) is required.

5. Restriction to one of the following inventions is required under 35 U.S.C. 121:

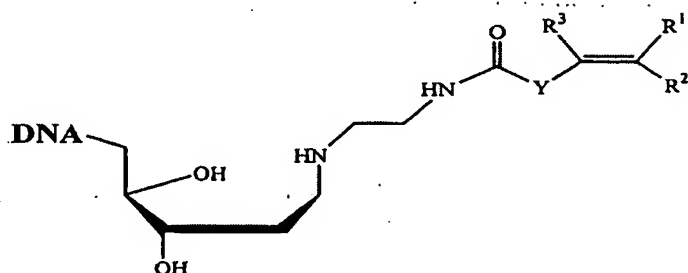
I. Claims 65 and 68 (see Linking Claim section below), drawn to a biochip comprising formula I or formula IV (see below), classified in class 506, subclass



II. Claim 66 (see Linking Claim section below), drawn to a biochip comprising formula II (i.e. 5'-X-O-DNA-3'-O-Z), classified in class 506, subclass 17.

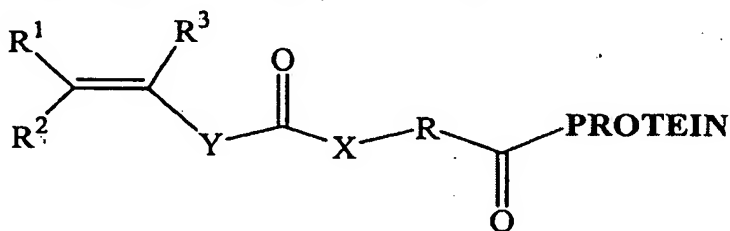
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III. Claim 67 (see Linking Claim section below), drawn to a biochip comprising formula III (see below), classified in class 506, subclass 13.



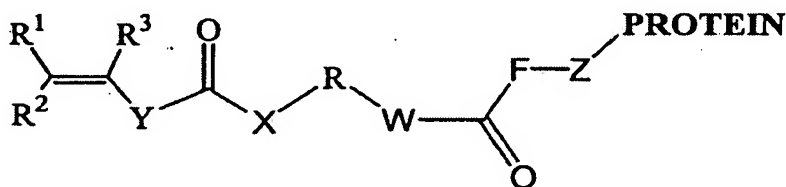
(III)

IV. Claim 69 (see Linking Claim section below), drawn to a biochip comprising formula V (see below), classified in class 506, subclass 18.



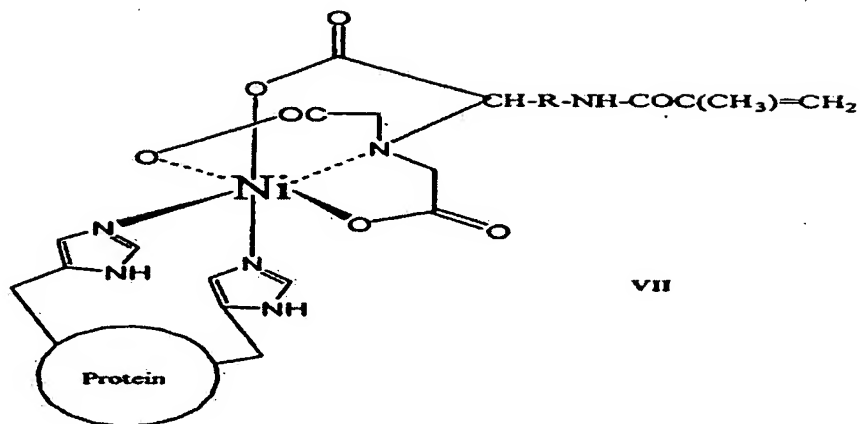
V

V. Claim 70 (see Linking Claim section below), drawn to a biochip comprising formula VI (see below), classified in class 506, subclass 15.



VI

VI. Claim 71 (see Linking Claim section below), drawn to a biochip comprising formula VII (see below), classified in class 506, subclass 21.



5. The inventions are distinct, each from the other because of the following reasons:

Inventions I, II, III, IV, V, and VI are directed to related products. The related inventions are distinct if the (1) the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect; (2) the inventions do not overlap in scope, i.e., are mutually exclusive; and (3) the inventions as claimed are not obvious variants. See MPEP § 806.05(j). In the instant case, the inventions as claimed have a materially different design. For example, the biochip of Group I requires formulas I or IV (i.e. oligo or DNA) which is not required by any of the other groups, the biochip of Group II requires formula II which is not required by any of the other groups, the biochip of Group III requires formula III which is not required by any of the other groups, the biochip of Group IV requires formula V which is not required by any other group, the biochip of Group V requires formula VI which is not required by any other group, and the biochip of Group VI requires formula VII which is not required by any of the other groups. Furthermore, the inventions as claimed do not encompass overlapping subject matter and there is nothing of record to show them to be obvious variants.

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6. Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above and there would be a serious search and examination burden if restriction were not required because one or more of the following reasons apply:

- (a) the inventions have acquired a separate status in the art in view of their different classification;
- (b) the inventions have acquired a separate status in the art due to their recognized divergent subject matter;
- (c) the inventions require a different field of search (for example, searching different classes/subclasses or electronic resources, or employing different search queries);
- (d) the prior art applicable to one invention would not likely be applicable to another invention;
- (e) the inventions are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

***Linking Claim***

7. Claim 52 and dependent claims 53-64 and 72-75 link(s) inventions I, II, III, IV, V, and VI. The restriction requirement between the linked inventions is subject to the nonallowance of the linking claim(s), claim 52 and dependent claims 53-64 and 72-75 which are also generic to the inventions of Groups I, II, III, IV, V, and VI. Upon the indication of allowability of the linking claim(s), the restriction requirement as to the linked inventions shall be withdrawn and any claim(s) depending from or otherwise requiring all the limitations of the allowable linking claim(s) will be rejoined and fully examined for patentability in accordance with 37 CFR 1.104.

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Claims that require all the limitations of an allowable linking claim will be entered as a matter of right if the amendment is presented prior to final rejection or allowance, whichever is earlier.

Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312.

8. Applicant(s) are advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, the allowable linking claim, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Where a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

***Election of Invention***

9. **Applicant is advised that the reply to this requirement to be complete must include (i) an election of a invention to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.**

10. The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to



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petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected invention.

11. If claims are added after the election, applicant must indicate which of these claims are readable upon the elected invention.

12. Should applicant traverse on the ground that the inventions are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

*Species*

13. This application contains claims directed to the following patentably distinct species of the claimed invention for Groups I-VI. Election is required as follows.

14. If applicant elects the invention of Group I, the applicant is required to elect a single, specific species from **each** of the following species A-F.

- A. species of R<sup>1</sup>
- B. species of R<sup>2</sup>
- C. species of R<sup>3</sup>
- D. species of R<sup>4</sup>
- E. species of Y

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## F. species of Z

The election should result in a *particularly defined* structure for formulas I and IV. All variable groups should be defined including the bonds between the groups. Therefore, applicants must elect a single species for each of species A-F (i.e. variable groups  $R^{1-4}$ , Y, and Z).

Furthermore, applicant should **not** use general notations (e.g.  $R^1$ ,  $R^2$ , etc.) when defining the structure because these labels represent more than one chemical group and thus more than one compound would be erroneously elected.

15. If applicant elects the invention of Group II, the applicant is required to elect a single, specific species from **each** of the following species A-F.

## A. species of X

## B. species of Z

C. species of  $R^1$  (where applicable)D. species of  $R^2$  (where applicable)E. species of  $R^3$  (where applicable)

## F. species of Y (where applicable)

The election should result in a *particularly defined* structure for formula II. All variable groups should be defined including the bonds between the groups. Therefore, applicants must elect a single species for each of species A-F (i.e. variable groups X, Z,  $R^{1-3}$ , and Y). It is noted that an election of  $R^{1-3}$  and Y is dependent on the election of X and Z (i.e. if the elected species of X is H and the elected species of Z is H then an election of  $R^{1-3}$  and Y is not required).

Furthermore, applicant should **not** use general notations (e.g.  $R^1$ ,  $R^2$ , etc.) when defining the

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structure because these labels represent more than one chemical group and thus more than one compound would be erroneously elected.

16. If applicant elects the invention of Group III, the applicant is required to elect a single, specific species from **each** of the following species A-D.

- A. species of  $R^1$
- B. species of  $R^2$
- C. species of  $R^3$
- D. species of Y

The election should result in a *particularly defined* structure for formula III. All variable groups should be defined including the bonds between the groups. Therefore, applicants must elect a single species for each of species A-D (i.e. variable groups  $R^{1-3}$  and Y). Furthermore, applicant should **not** use general notations (e.g.  $R^1$ ,  $R^2$ , etc.) when defining the structure because these labels represent more than one chemical group and thus more than one compound would be erroneously elected.

17. If applicant elects the invention of Group IV, the applicant is required to elect a single, specific species from **each** of the following species A-F.

- A. species of  $R^1$
- B. species of  $R^2$
- C. species of  $R^3$
- D. species of R

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E. species of Y

F. species of X

The election should result in a *particularly defined* structure for formula V. All variable groups should be defined including the bonds between the groups. Therefore, applicants must elect a single species for each of species A-F (i.e. variable groups  $R^{1-3}$ , R, Y, and X).

Furthermore, applicant should **not** use general notations (e.g.  $R^1$ ,  $R^2$ , etc.) when defining the structure because these labels represent more than one chemical group and thus more than one compound would be erroneously elected.

18. If applicant elects the invention of Group V, the applicant is required to elect a single, specific species from **each** of the following species A-I.

A. species of  $R^1$ B. species of  $R^2$ C. species of  $R^3$ 

D. species of R

E. species of Y

F. species of X

G. species of W

H. species of F

I. species of Z

The election should result in a *particularly defined* structure for formula VI. All variable groups should be defined including the bonds between the groups. Therefore, applicants must elect a single species for each of species A-I (i.e. variable groups  $R^{1-3}$ , R, Y, X, W, F, and Z).

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Furthermore, applicant should **not** use general notations (e.g.  $R^1$ ,  $R^2$ , etc.) when defining the structure because these labels represent more than one chemical group and thus more than one compound would be erroneously elected.

19. If applicant elects the invention of Group VI, the applicant is required to elect a single, specific species from **each** of the following species A-B.

A. species of R

B. species of s

The election should result in a *particularly defined* structure for formula VII. All variable groups should be defined including the bonds between the groups. Therefore, applicants must elect a single species for each of species A-B (i.e. variable group R and integer "s").

Furthermore, applicant should **not** use general notations (e.g.  $R^1$ ,  $R^2$ , etc.) when defining the structure because these labels represent more than one chemical group and thus more than one compound would be erroneously elected.

20. The species are independent or distinct because claims to the different species recite the mutually exclusive characteristics of such species. In addition, these species are not obvious variants of each other based on the current record.

21. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, independent linking claim 52 and dependent linking claims 53-64 and 72-75 are generic for all groups. In addition, claims 65 and 68 are generic for Group I,

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claim 66 is generic for Group II, claim 67 is generic for Group III, claim 69 is generic for Group IV, claim 70 is generic for Group V, and claim 71 is generic for Group VI.

22. There is an examination and search burden for these patentably distinct species due to their mutually exclusive characteristics. The species require a different field of search (e.g., searching different classes/subclasses or electronic resources, or employing different search queries); and/or the prior art applicable to one species would not likely be applicable to another species; and/or the species are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

23. **Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.**

24. The election of the species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the election of species requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to

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petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected species.

25. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the species unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other species.

26. Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141.

27. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

#### ***Future Communications***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amber D. Steele whose telephone number is 571-272-5538. The examiner can normally be reached on Monday through Friday 9:00AM-5:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doug Schultz can be reached on 571-272-0763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Amber D. Steele/  
Patent Examiner  
AU1639

November 26, 2007